

Titles of Most Frequently Occurring Classifications of Patents Returned

From A Search of 09639163 on July 12, 2001

18 438/655 (0 OR, 18 XR)
 Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
 CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive
 material

438/652 ..Plural layered electrode or conductor

438/655 ...Silicide

14 438/683 (1 OR, 13 XR)
 Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
 CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive
 material

438/682 ..Silicide

438/683 ...Of refractory group metal (i.e., titanium
 (Ti), zirconium (Zr), hafnium (Hf), vanadium
 (Nb), tantalum (Ta), chromium (Cr), molybdenum
 (Mo), tungsten (W), or alloy thereof)

10 438/592 (2 OR, 8 XR)
 Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
 CONDUCTIVE MATERIAL

438/585 .Insulated gate formation

438/592 ..Possessing plural conductive layers (e.g.,
 polycide)

10 438/664 (0 OR, 10 XR)
 Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
 CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive
 material

438/660 ..Including heat treatment of conductive layer

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438/663 ...Rapid thermal anneal
438/664Forming silicide

9 438/586 (6 OR, 3 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL

438/585 .Insulated gate formation

438/586 ..Combined with formation of ohmic contact to
semiconductor region

9 438/649 (5 OR, 4 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive
material

438/618 ..Contacting multiple semiconductive regions
(i.e., interconnects)

438/642 ...Diverse conductors

438/648Having refractory group metal (i.e.,
titanium (Ti), zirconium (Zr), hafnium (Hf

), vanadium (V),

niobium (Nb), tantalum (Ta), chromium (Cr)

, molybdenum

(Mo), tungsten (W), or alloy thereof)

438/649Silicide

9 438/754 (3 OR, 6 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/689 CHEMICAL ETCHING

438/745 .Liquid phase etching

438/754 ..Electrically conductive material (e.g.,
metal, conductive oxide, etc.)

7 438/682 (2 OR, 5 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive
material

438/682 ..Silicide

5 438/301 (0 OR, 5 XR)

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Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF
ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION OR
ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS

438/197 .Having insulated gate (e.g., IGFET, MISFET, MOSFET, etc.)

438/299 ..Self-aligned

438/301 ...Source or drain doping

5 438/303 (2 OR, 3 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF
ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION OR
ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS

438/197 .Having insulated gate (e.g., IGFET, MISFET, MOSFET, etc.)

438/299 ..Self-aligned

438/301 ...Source or drain doping

438/303Utilizing gate sidewall structure

4 148/266 (3 OR, 1 XR)

Class 148 : METAL TREATMENT

148/95 PROCESS OF MODIFYING OR MAINTAINING INTERNAL
PHYSICAL STRUCTURE (I.E., MICROSTRUCTURE) OR CHEMICAL
E COATING OF METAL
AND PROCESS OF CHEMICAL-HEAT REMOVING (E.G., FLAME-CUTTING,
ETC.) OR BURNING OF METAL

148/240 .Processes of coating utilizing a reactive
composition which reacts with metal substrate or
composition therefore

148/243 ..Liquid reactive coating composition utilized

148/264 ...Contains an atom of chromium

148/266Contains an atom of sulfur, selenium or tellurium

4 148/267 (0 OR, 4 XR)

Class 148 : METAL TREATMENT

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148/95 PROCESS OF MODIFYING OR MAINTAINING INTERNAL
PHYSICAL STRUCTURE (I.E., MICROSTRUCTUR
E) OR CHEMICAL
E COATING OF METAL
E.G., FLAME-CUTTING,
ETC.) OR BURNING OF METAL
148/240 .Processes of coating utilizing a reactive
composition which reacts with metal subs
trate or
composition therefore
148/243 ..Liquid reactive coating composition utilized
148/264 ...Contains an atom of chromium
148/267Contains trivalent chromium ion or reducin
g
agent or an organic additive

4 252/79.4 (1 OR, 3 XR)
Class 252 : COMPOSITIONS
252/79.1 ETCHING OR BRIGHTENING COMPOSITIONS
252/79.2 .Inorganic acid containing
252/79.4 ..With organic material

4 438/584 (1 OR, 3 XR)
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS
438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL

4 438/685 (1 OR, 3 XR)
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS
438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL
438/597 .To form ohmic contact to semiconductive
material
438/685 ..Refractory group metal (i.e., titanium (Ti),
zirconium (Zr), hafnium (Hf), vanadium (V),
niobium (Nb),
tantalum (Ta), chromium (Cr), molybdenum (M
o), tungsten
(W), or alloy thereof)

3 134/2 (0 OR, 3 XR)
Class 134 : CLEANING AND LIQUID CONTACT WITH SOLIDS
134/2 .For metallic, siliceous, or calcareous

ation or

basework, including chemical bleaching, oxidation or reduction

3 148/247 (2 OR, 1 XR)
 Class 148 : METAL TREATMENT
 148/95 PROCESS OF MODIFYING OR MAINTAINING INTERNAL
 PHYSICAL STRUCTURE (I.E., MICROSTRUCTURE
) OR CHEMICAL
 COATING OF METAL
 .G., FLAME-CUTTING,
 148/240 ETC.) OR BURNING OF METAL
 .Processes of coating utilizing a reactive
 composition which reacts with metal subst
 rate or
 composition therefore
 148/243 ..Liquid reactive coating composition utilized
 148/247 ...Contains an atom of hafnium, titanium or
 zirconium (excludes activating composition)

3 204/192.15 (1 OR, 2 XR)
 Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
 204/192.1 .Coating, forming or etching by sputtering
 204/192.12 ..Glow discharge sputter deposition (e.g.,
 cathode sputtering, etc.)
 204/192.15 ...Specified deposition material or use

3 204/192.16 (1 OR, 2 XR)
 Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
 204/192.1 .Coating, forming or etching by sputtering
 204/192.12 ..Glow discharge sputter deposition (e.g.,
 cathode sputtering, etc.)
 204/192.15 ...Specified deposition material or use
 204/192.16Wear or abrasion resistant

3 204/192.2 (1 OR, 2 XR)
 Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
 204/192.1 .Coating, forming or etching by sputtering
 204/192.12 ..Glow discharge sputter deposition (e.g.,
 cathode sputtering, etc.)
 204/192.15 ...Specified deposition material or use
 204/192.2Ferromagnetic

3 252/79.1 (2 OR, 1 XR)

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Class 252 : COMPOSITIONS
252/79.1 ETCHING OR BRIGHTENING COMPOSITIONS

3 252/79.2 (0 OR, 3 XR)
Class 252 : COMPOSITIONS
252/79.1 ETCHING OR BRIGHTENING COMPOSITIONS
252/79.2 .Inorganic acid containing

3 427/577 (0 OR, 3 XR)
Class 427 : COATING PROCESSES
427/457 DIRECT APPLICATION OF ELECTRICAL, MAGNETIC,
WAVE, OR PARTICULATE ENERGY
427/569 .Plasma (e.g., corona, glow discharge, cold
plasma, etc.)
427/577 ..Inorganic carbon containing coating material
not as steel (e.g., carbide, etc.)

3 438/305 (3 OR, 0 XR)
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS
438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF
ACTIVE REGIONS SEPARATED BY GATE STRUC
TURE BY FORMATION OR
GIONS ALTERATION OF SEMICONDUCTIVE ACTIVE RE
438/197 .Having insulated gate (e.g., IGFET, MISFET,
MOSFET, etc.)
438/299 ..Self-aligned
438/301 ...Source or drain doping
438/303Utilizing gate sidewall structure
438/305Plural doping steps

3 438/533 (1 OR, 2 XR)
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS
438/510 INTRODUCTION OF CONDUCTIVITY MODIFYING DOPANT
INTO SEMICONDUCTIVE MATERIAL
438/514 .Ion implantation of dopant into semiconductor
region
438/533 ..And contact formation (i.e., metallization)

3 438/656 (1 OR, 2 XR)
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS
438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL

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438/597 .To form ohmic contact to semiconductive material
438/652 ..Plural layered electrode or conductor
438/656 ...Having refractory group metal (i.e., titanium (Ti), zirconium (Zr), hafnium (Hf), vanadium (V), niobium (Nb), tantalum (Ta), chromium (Cr), molybdenum (Mo), tungsten (W), or alloy thereof)

3 438/681 (0 OR, 3 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive material

438/680 ..Utilizing chemical vapor deposition (i.e., CVD)

438/681 ...Of organo-metallic precursor (i.e., MOCVD)

3 438/692 (1 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/689 CHEMICAL ETCHING

438/690 .Combined with the removal of material by nonchemical means (e.g., ablating, abrading, etc.)

438/691 ..Combined mechanical and chemical material removal

438/692 ...Simultaneous (e.g., chemical-mechanical polishing, etc.)

3 438/693 (0 OR, 3 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/689 CHEMICAL ETCHING

438/690 .Combined with the removal of material by nonchemical means (e.g., ablating, abrading, etc.)

438/691 ..Combined mechanical and chemical material removal

438/692 ...Simultaneous (e.g., chemical-mechanical polishing, etc.)

438/693Utilizing particulate abradant

3 438/755 (1 OR, 2 XR)

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Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/689 CHEMICAL ETCHING

438/745 .Liquid phase etching

438/754 ..Electrically conductive material (e.g.,
metal, conductive oxide, etc.)

438/755 ...Silicide

2 29/25.01 (0 OR, 2 XR)

Class 029 : METAL WORKING

29/25.01 BARRIER LAYER OR SEMICONDUCTOR DEVICE MAKING

2 134/3 (1 OR, 1 XR)

Class 134 : CLEANING AND LIQUID CONTACT WITH SOLIDS

134/2 .For metallic, siliceous, or calcareous
basework, including chemical bleaching, ox

idation or

reduction

134/3 ..Including acidic agent

2 148/273 (0 OR, 2 XR)

Class 148 : METAL TREATMENT

148/95 PROCESS OF MODIFYING OR MAINTAINING INTERNAL
PHYSICAL STRUCTURE (I.E., MICROSTRUCTURE

) OR CHEMICAL

PROPERTIES OF METAL, PROCESS OF REACTIVE

COATING OF METAL

AND PROCESS OF CHEMICAL-HEAT REMOVING (E

.G., FLAME-CUTTING,

ETC.) OR BURNING OF METAL

148/240 .Processes of coating utilizing a reactive
composition which reacts with metal subst

rate or

composition therefore

148/243 ..Liquid reactive coating composition utilized

148/273 ...Contains an atom of arsenic or metal atom
other than alkali metal

2 148/277 (0 OR, 2 XR)

Class 148 : METAL TREATMENT

148/95 PROCESS OF MODIFYING OR MAINTAINING INTERNAL
PHYSICAL STRUCTURE (I.E., MICROSTRUCTURE)

OR CHEMICAL

PROPERTIES OF METAL, PROCESS OF REACTIVE

COATING OF METAL

AND PROCESS OF CHEMICAL-HEAT REMOVING (E.

G., FLAME-CUTTING,

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ETC.) OR BURNING OF METAL

148/240

.Processes of coating utilizing a reactive composition which reacts with metal substr

ate or

composition therefore

148/277

..Metal oxide formed after applied coating

2 156/345 (0 OR, 2 XR)

Class 156 : ADHESIVE BONDING AND MISCELLANEOUS CHEMICAL
MANUFACTURE

156/345 DIFFERENTIAL ETCHING APPARATUS

2 257/384 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/213 FIELD EFFECT DEVICE

257/288 .Having insulated electrode (e.g., MOSFET, MOS
diode)

257/368 ..Insulated gate field effect transistor in
integrated circuit

257/382 ...With contact to source or drain region of
refractory material (e.g., polysilicon, tu

ngsten, or

silicide)

257/384Including silicide

2 257/751 (2 OR, 0 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/734 COMBINED WITH ELECTRICAL CONTACT OR LEAD

257/741 .Of specified material other than unalloyed
aluminum

257/750 ..Layered

257/751 ...At least one layer forms a diffusion barrie

r

2 257/764 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/734 COMBINED WITH ELECTRICAL CONTACT OR LEAD

257/741 .Of specified material other than unalloyed
aluminum

257/750 ..Layered

257/763 ...At least one layer of molybdenum, titanium,
or tungsten

257/764Alloy containing molybdenum, titanium, or
tungsten

2 257/915 (0 OR, 2 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/915 09639163_CLSTITLES.txt
WITH TITANIUM NITRIDE PORTION OR REGION

- 2 427/250 (0 OR, 2 XR)
Class 427 : COATING PROCESSES
427/248.1 COATING BY VAPOR, GAS, OR SMOKE
427/250 .Metal coating
- 2 427/255.7 (0 OR, 2 XR)
Class 427 : COATING PROCESSES
427/248.1 COATING BY VAPOR, GAS, OR SMOKE
427/255.7 .Plural coatings applied by vapor, gas, or
smoke
- 2 427/309 (0 OR, 2 XR)
Class 427 : COATING PROCESSES
427/299 WITH PRETREATMENT OF THE BASE
427/307 .Etching, swelling, or dissolving out part of
the base
427/309 ..Inorganic base
- 2 427/576 (1 OR, 1 XR)
Class 427 : COATING PROCESSES
427/457 DIRECT APPLICATION OF ELECTRICAL, MAGNETIC,
WAVE, OR PARTICULATE ENERGY
427/569 .Plasma (e.g., corona, glow discharge, cold
plasma, etc.)
427/576 ..Metal, metal alloy, or metal oxide coating
- 2 428/694TC (0 OR, 2 XR)
Class 428 : STOCK MATERIAL OR MISCELLANEOUS ARTICLES
428/411.1 COMPOSITE (NONSTRUCTURAL LAMINATE)
428/688 .Of inorganic material
428/689 ..Metal-compound-containing layer
428/692 ...Defined magnetic layer
428/694RDynamic recording medium
428/694TMetal thin film magnetic layer
428/694TPTopcoat, or protective overlayer
428/694TCCarbon
- 2 438/398 (1 OR, 1 XR)
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS
438/381 MAKING PASSIVE DEVICE (E.G., RESISTOR,
CAPACITOR, ETC.)
438/396 .Stacked capacitor
438/398 ..Including texturizing storage node layer
- 2 438/648 (1 OR, 1 XR)

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Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive
material

438/618 ..Contacting multiple semiconductive regions
(i.e., interconnects)

438/642 ...Diverse conductors

438/648Having refractory group metal (i.e.,
titanium (Ti), zirconium (Zr), hafnium (Hf)

, vanadium (V),

molybdenum

niobium (Nb), tantalum (Ta), chromium (Cr),

(Mo), tungsten (W), or alloy thereof)

2 438/659 (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive
material

438/658 ..Altering composition of conductor

438/659 ...Implantation of ion into conductor

2 438/660 (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive
material

438/660 ..Including heat treatment of conductive layer

2 438/688 (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584 COATING WITH ELECTRICALLY OR THERMALLY
CONDUCTIVE MATERIAL

438/597 .To form ohmic contact to semiconductive
material

438/688 ..Aluminum or aluminum alloy conductor

2 438/721 (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

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438/689 CHEMICAL ETCHING

438/706 .Vapor phase etching (i.e., dry etching)

438/707 ..Utilizing electromagnetic or wave energy

438/710 ...By creating electric field (e.g., plasma,
glow discharge, etc.)

438/720Electrically conductive material (e.g.,
metal, conductive oxide, etc.)

438/721Silicide

2 438/902 (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/902 CAPPING LAYER

2 451/41 (2 OR, 0 XR)

Class 451 : ABRADING

451/28 ABRADING PROCESS

451/41 .Glass or stone abrading

2 525/240 (2 OR, 0 XR)

Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART
OF THE CLASS 520 SERIES

525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING
OF SOLID POLYMER OR SICP WITH SICP OR SP

FI; MIXING OF SICP

POLYMER WITH A

PROCESSES OF

ODUCT OF ANY OF THE

ABOVE OPERATIONS

525/55 ..At least one solid polymer derived from
ethylenic reactants only

525/191 ...Polymer mixture of two or more solid
polymers derived from ethylenically unsatu

rated reactants

only; or mixtures of said polymer mixture

with a chemical

treating agent; or products or processes o

f preparing any

of the above mixtures

525/240Solid polymer derived from ethylene or
propylene